REMARKS

New claims 15 to 18 specify the amount of chelant as from 1.5 to 4% based on the colorant composition (claims 15 and 17) or from about 2 to about 3% based on the weight of the colorant composition (claims 16 and 18). Support for same is provided at page 5, lines 4 to 5 of the specification.

In the Office Action dated September 3, 2004, claims 1-14 of the subject application stand rejected under 35 U.S.C.§103(a) as unpatentable over Casperson et al. (U.S., 5,376,146) in view of Lapidus et al. (U.S. 4,104,021) and further in view of Bugaut et al. (U.S. 5,085,666)

Pursuant to the subject invention, it was found that in hair colorant compositions formed by the mixture of alkaline dye and oxidizing compositions, the addition of a relatively high level of chelant, i.e., from about 1 to about 5 percent by weight, based on the weight of the colorant composition, in combination with a water soluble ammonium carbonate or carbamate salt, provides a means of substantially avoiding hair damage.

Claims 1 to 8 of the subject application are directed to a method for permanently dyeing hair comprising subjecting a person's hair to a number of treatments, having a set time interval between each two consecutive treatments, wherein each treatment comprises:

a) contacting the hair with a recently prepared mixture of a colorant composition comprising:
   A) an alkaline dye composition comprising:
      i) an effective amount to color hair of at least one dye intermediate;

ii) from about 0.1 to about 25% by weight based on the colorant composition of a water soluble ammonium carbonate or carbamate salt;

iii) from 1 to 5% by weight based on the colorant composition of a chelant; and

iv) a cosmetically acceptable carrier;

B) an oxidizing composition comprising:

i) from 0.1 to 15% by weight based on the colorant composition of a peroxide compound; and

ii) a cosmetically acceptable carrier;

b) rinsing the mixture from the hair with water.

Claims 9 to 14 are directed to a kit for permanently dyeing hair, that comprises Part A intermediate dye composition and a Part B oxidizing composition having the above described dye and oxidizing components. The kit further comprises instructions for use of the colorant composition.

Casperson et al. teaches a method for dyeing hair by using a two part aqueous composition formed by mixing an alkaline aqueous lotion first part and a developer second part. Referencing column 5, lines 12 to 32, and Examples 1 to 40, the Office Action characterizes the alkaline aqueous lotion of Casperson et al. as containing alkalizing agent of ammonia derivatives, sodium carbonate or sodium bicarbonates in the amount of 0.1 to 5%, and 0.1% of a chelant. The tables provided in Examples 1-40 are the only place in Casperson et al. where the use of chelant (i.e., EDTA) is disclosed; in the Examples, the disclosed lotions contain 0.1 percent of EDTA and the disclosed developers contain 0.1 percent of EDTA. The patent is silent regarding the relative amounts in which the lotions and developers are used, however, given that the amount of EDTA in both compositions is fixed at 0.1%, the amount of EDTA in the resulting coloring composition is expected to be 0.1%. In contrast, the minimum amount

of chelant in the hair coloring compositions of this invention is at least 10 times that of the chelant level disclosed by Casperson et al.

The Office Action characterizes one of the primary differences between the claimed invention and Casperson et al. as being the use of consecutive treatments, and relies upon the secondary reference of Lapidus et al., as teaching the use of successive color treatments to achieve gradual coloration. However, like Casperson et al., Lapidus et al. fails to disclose or suggest the use of chelant in the amount described by the subject claims. In Example 2 of Lapidus et al., colorant solutions containing from 0.47 to 0.49% of trisodium ETDA are exemplified. In use, such colorant solutions are mixed with an oxidant solution, further diluting the amount of chelant present.

Accompanying this response is a Declaration of Van Au, one of the inventors of the subject invention. The Au Declaration describes the preparation and testing of ammonium carbonate-containing colorant compositions that contained chelant (disodium EDTA) at levels of 0, 0.2, 1.0, 2.0 and 4.0 percent. As demonstrated by the data therein provided, the colorant compositions that contained 1.0, 2.0 or 4.0 weight percent of chelant were significantly less damaging to hair compared to otherwise identical compositions that contained 0 or 0.2 weight percent of chelant.

It is further noted that while Casperson et al. incorporates alkali metal carbonates or bicarbonates (or ammonium hydroxide) as pH adjusters, the use of ammonium carbonate or carbamate is not specifically disclosed; the Office Action argues that the secondary reference of Bugaut et al. makes this connection. Bugaut et al. is directed to the preparation of particular nitroanilines, as well as hair dyeing compositions comprising same. The patent discloses that:

> The pH of these dyeing compositions is suitably 3 to 11.5 and preferably 5 to 10.5. It is adjusted to the desired value with an alkalising agent, such as ammonia, sodium carbonate, potassium carbonate or ammonium carbonate, sodium hydroxide or potassium hyroxide, alkanolamines, such as mon-, di- or triethanolamine, 2-amino-2-methylpropanol or 2-amino-2-methylpropane-1,3-diol,

or alkylamines, such as ethylamine, diethylamine or triethylamine, or with an acidifying agent such as phosphoric, hydrochloric, tartaric, acetic, lactic or citric acid. (See column 6, lines 41 to 51.)

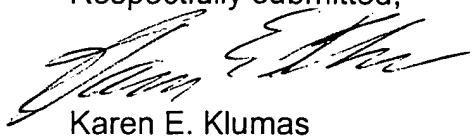
Bugaut et. al. discloses the use of ammonium carbonate as one of several pH adjusters. There is, however, nothing in the citation that discloses or suggests the combination of a water soluble ammonium carbonate or carbamate salt with the relatively high levels of chelant required by the subject invention as a means of reducing damage provided by hair colorant compositions. It is noted that Example 19 of Bugaut et al. discloses a dyeing composition (100g) that contains 2.5% by weight of Masquol DTPA. Masquol DTPA contains less than 40% diethylenetriamine pentaacetic acid, as the corresponding pentasodium salt. See the attached MSDS sheet for this product. Thus, the Example 19 dyeing composition actually contains less than 1% (0.4 x 2.5%) of chelant. The patent discloses that 100 g of hydrogen peroxide of 20 volumes strength are added at the time of application. See column 19, lines 56-57. The resulting coloring composition is, therefore, expected to contain less than 0.5% of chelant. Additionally, the Example 19 composition does not contain a water soluble ammonium carbonate or carbamate salt as required by the subject claims.

To summarize, there is nothing in Casperson et al., Lapidus et al., or Buguat et al., individually or in combination, that discloses or suggests a) a hair colorant composition containing chelant in an amount of from 1 to 5% by weight, based on the weight of the hair colorant composition or b) the addition of such relatively high levels of chelant in combination with a water soluble ammonium carbonate or carbamate salt as a means of significantly reducing the normally occurring damage provided by colorant compositions formed by the mixture of alkaline dye and oxidizing compositions.

Accordingly, reconsideration and allowance of the subject claims is respectfully requested.

If a telephone conversation would be of assistance in advancing the prosecution of the present application, Applicants' undersigned attorney invites the Examiner to telephone her at the number provided.

Respectfully submitted,



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